

NAMRU-6 Presents Research on the Phylogeography and Phylodynamics of the American-Asian Genotype of Dengue Virus-2

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BALTIMORE (NNS) -- Researchers from the U.S. Naval Medical Research Center No. 6 (NAMRU-6) in Lima, Peru shared findings on the patterns of dispersal of a recent epidemic strain of dengue virus, specifically the American-Asian genotype of dengue virus type 2 (DENV-2) at TropMed17.

This study marks the development of a state-of-the-art Next Generation Sequencing laboratory in Peru which can be used to enhance the surveillance and response to future dengue epidemics and other emerging viruses of public health importance.

NAMRU-6 researchers were able to reconstruct the geographic routes of dengue virus spread within Peru and between Peru and neighboring countries by performing nucleic acid sequencing of around 500 dengue virus strains isolated from human infections occurring throughout Peru and nearby nations.

"Through advanced evolutionary analysis and computational modeling we identified that DENV-2 was likely introduced through three distinct routes, one from the north of Peru and two from the east of Peru," said Dr. Mariana Leguia, principal investigator.

Leguia and a team of researchers also discovered that within Peru, the spread of this epidemic strain was most common between neighboring provinces. According to Leguia, NAMRU-6's research indicated this epidemic strain seems to persist between years in Iquitos, a remote urban city in the Amazon basin that may act as a hub of viral traffic from one location to others in the Amazon.

"Dengue virus causes a substantial amount of morbidity in local populations in Peru and other tropical areas," said Leguia. "It truly is a major threat to travelers and the deployed warfighter, which is why we are working so hard to understand the phylogeography and phylodynamics of dengue."

The ASTMH Annual Meeting draws tropical medicine and global health professionals representing academia, government, non-profits, philanthropy, NGOs, industry, military and private practice. The meeting is designed for researchers, professors, government and public health officials, military personnel, travel clinic physicians, practicing physicians in tropical medicine, students and all health care providers working in the fields of tropical medicine, hygiene and global health. The Annual Meeting is a five-day educational conference that includes four pre-meeting courses and draws approximately 4,400 attendees.

The Naval Medical Research Center's (NMRC) eight laboratories are engaged in a broad spectrum of activity from basic science in the laboratory to field studies at sites in austere and remote areas of the world to operational environments. In support of the Navy, Marine Corps, and joint U.S. warfighters, researchers study infectious diseases; biological warfare detection and defense; combat casualty care; environmental health concerns; aerospace and undersea medicine; medical modeling, simulation and operational mission support; and epidemiology and behavioral sciences.

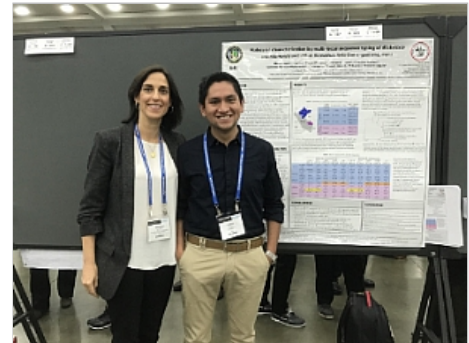
NMRC and the laboratories deliver high-value, high-impact research products to support and protect today's deployed warfighters. At the same time researchers are focused on the readiness and well-being of future forces.

For more information, visit www.navy.mil, www.facebook.com/usnavy, or [href='http://www.twitter.com/usnavy'>www.twitter.com/usnavy](https://www.twitter.com/usnavy).

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Mariana Leguia (left) pictured with Steev Loyola (right) at the American Society of Tropical Medicine and Hygiene Annual Meeting in Baltimore, Maryland, November 7. Leguia presented findings on the phylogeography and phylodynamics of the American-Asian genotype of Dengue Virus-2.

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